

Notice of Allowability

Application No.

10/526,656

Examiner

Rip A. Lee

Applicant(s)

RESONI ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to January 9, 2007.
2. ☒ The allowed claim(s) is/are 1-3, 5 and 8-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

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Claim 1, line 13 insert a comma after "halogen atoms"

Claim 1, line 14 delete "or" that appears prior to the word "linear"

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 1-3, 5, and 8-11 are allowed over the closest references cited below.

The present invention is drawn to a process for producing a polymer of ethylene containing from 0.1-99 mole % of at least one derived unit of alpha olefins of formula $\text{CH}_2=\text{CHZ}$ wherein Z is a $\text{C}_2\text{-C}_{20}$ radical, and optionally, from 0-5 mole % of polyene. Polymerization is performed in the presence of a catalyst comprising a metallocene of formula (IV) or (V) and an aluminoxane or a compound that forms an alkyl metallocene cation; see claims for full structural details. Salient features of the metallocene include: (i) substituents R^1 and R^6 are not hydrogen, (ii) when R^3 is hydrogen, R^4 is a $\text{C}_1\text{-C}_{10}$ alkyl radical, and (iii) when R^4 is hydrogen, R^3 is a $\text{C}_1\text{-C}_{10}$ alkyl radical.

Ewen *et al.* (U.S. 6,444,833 and 6,635,779) disclose the compounds $\text{Me}_2\text{Si}(2,5\text{-Me}_2\text{-3-Ph-cyclopentadienyl thiophene})_2\text{ZrCl}_2$ and $\text{Me}_2\text{Si}(2,5\text{-Me}_2\text{-3-(2'-MePh)cyclopentadienyl thiophene})_2\text{ZrCl}_2$, and $\text{Me}_2\text{Si}(2,5\text{-Me}_2\text{-3-(2',4',6'-MePh)cyclopentadienyl thiophene})_2\text{ZrCl}_2$ having utility as a polymerization catalyst component. The compounds possess the requisite substituent in the 5-position of the cyclopentadienylthiophene ring, but they lack the appropriate substitution pattern in the 3-phenyl substituent. There is no teaching or suggestion to make compounds of formula (IV) in the instant claims and use them in a polymerization process to make the claimed polymer.

Resconi *et al.* (U.S. 6,608,224 and 6,987,196) recite the same listing of compounds described in the previous paragraph.

Schottek *et al.* (U.S. 6,627,764 and 6,469,114) and Bohnen *et al.* (U.S. 6,482,902) disclose mixed ring (thiapentalene/indenyl) metallocenes such as $\text{Me}_2\text{Si}(2\text{-Me-thiapentalene})(4\text{-PhInd})\text{ZrCl}_2$. These references do not teach compounds of formula (V) in the instant claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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March 28, 2007



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